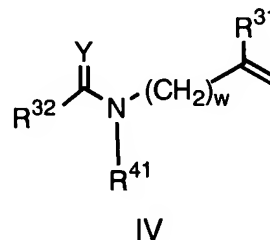
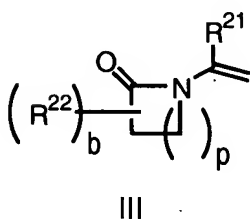
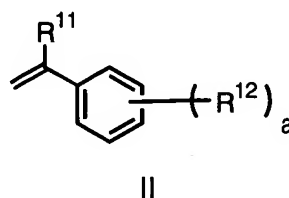
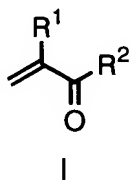


What is claimed is:

1. A method comprising the steps of
 - (a) curing a reactive monomer mix comprising at least one lens forming component and at least one ligand monomer under conditions sufficient to provide a reactivity ratio of the ligand monomer to at least one major lens forming component of at least about 0.45; and
 - (b) treating said lens with a silver solution to form an antimicrobial lens comprising silver in an amount which is at least about 80% of target silver concentration, where the ligand monomer is of Formulae I, II, III or IV,



wherein

R¹ is hydrogen or C₁₋₆alkyl;

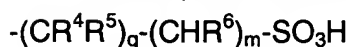
R² is -OR³, -NH-R³, -S-(CH₂)_d-R³, or -(CH₂)_d-R³, wherein d is 0-8;

R³ is substituted C₁₋₆alkyl

where the alkyl substituents are selected from one or more members of the group consisting of carboxylic acid, sulfonic acid, phosphonic acid, amine, amidine, acetamide, nitrile, thiol, C₁₋₆alkyldisulfide, C₁₋₆alkylsulfide, phenyldisulfide, urea, C₁₋₆alkylurea, phenylurea, thiourea, C₁₋₆alkylthiourea, phenylthiourea,

substituted C₁₋₆alkyldisulfide, substituted
phenyldisulfide, substituted C₁₋₆alkylurea, substituted
phenylurea, substituted C₁₋₆alkylthiourea, and
substituted phenylthiourea

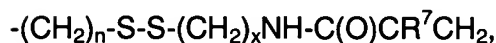
wherein the C₁₋₆alkyldisulfide, phenyldisulfide,
C₁₋₆alkylurea, C₁₋₆alkylthiourea, phenylurea, and
phenylthiourea substituents are selected from the
group consisting of C₁₋₆alkyl, haloC₁₋₆alkyl, halogen,
hydroxyl, carboxylic acid, sulfonic acid, phosphonic
acid, amine, amidine, acetamide, and nitrile;



wherein R⁴, R⁵, and R⁶ are independently selected from
the group consisting of hydrogen, halogen, hydroxyl,
and C₁₋₆alkyl,

q is 1-6, and

m is 0-6;



wherein R⁷ is hydrogen or C₁₋₆alkyl,

n is 1-6, and

x is 1-6;



wherein R⁸, R⁹, and R¹⁰ are independently selected
from the group consisting of hydrogen, halogen,
hydroxyl, and C₁₋₆alkyl,

t is 1-6, and

u is 0-6;

phenyl, benzyl, pyridinyl, pyrimidinyl, pyrazinyl,
benzimidazolyl, benzothiazolyl, benzotriazolyl, naphthaloyl,
quinolinyl, indolyl, thiadiazolyl, triazolyl,
4-methylpiperidin-1-yl, 4-methylpiperazin-1-yl, substituted
phenyl, substituted benzyl, substituted pyridinyl,

substituted pyrimidinyl, substituted pyrazinyl, substituted
benzimidazolyl, substituted benzothiazolyl, substituted
benzotriazolyl, substituted naphthaloyl, substituted
quinolinyl, substituted indolyl, substituted thiadiazolyl,
5 substituted triazolyl, substituted 4-methylpiperidin-1-yl; or
substituted 4-methylpiperazin-1-yl,
wherein the substituents are selected from one or more
members of the group consisting of C₁₋₆alkyl,
haloC₁₋₆alkyl, halogen, sulfonic acid, phosphonic acid,
10 hydroxyl, carboxylic acid, amine, amidine,
N-(2-aminopyrimidine)sulfonyl,
N-(aminopyridine)sulfonyl, N-(aminopyrazine)sulfonyl,
N-(2-aminopyrimidine)carbonyl,
N-(aminopyridine)carbonyl, N-(aminopyrazine)carbonyl,
15 N-(2-aminopyrimidine)phosphonyl,
N-(2-aminopyridine)phosphonyl,
N-(aminopyrazine)phosphonyl,
N-(aminobenzimidazolyl)sulfonyl,
N-(aminobenzothiazolyl)sulfonyl,
20 N-(aminobenzotriazolyl)sulfonyl,
N-(aminoindolyl)sulfonyl, N-(aminothiazolyl)sulfonyl,
N-(aminotriazolyl)sulfonyl,
N-(amino-4-methylpiperidinyl)sulfonyl,
N-(amino-4-methylpiperazinyl)sulfonyl,
25 N-(aminobenzimidazolyl)carbonyl,
N-(aminobenzothiazolyl)carbonyl,
N-(aminobenzotriazolyl)carbonyl,
N-(aminoindolyl)carbonyl, N-(aminothiazolyl)carbonyl,
N-(aminotriazolyl)carbonyl,
30 N-(amino-4-methylpiperidinyl)carbonyl,
N-(amino-4-methylpiperazinyl)carbonyl,

N-(2-aminobenzimidazolyl)phosphonyl,
 N-(2-aminobenzothiazolyl)phosphonyl,
 N-(2-aminobenzotriazolyl)phosphonyl,
 N-(2-aminoindolyl)phosphonyl,
 5 N-(2-aminothiazolyl)phosphonyl,
 N-(2-aminotriazolyl)phosphonyl,
 N-(amino-4-methylpiperidiny) phosphonyl,
 N-(amino-4-methylpiperaziny) phosphonyl, acetamide,
 nitrile, thiol, C₁₋₆alkyldisulfide, C₁₋₆alkylsulfide, phenyl
 10 disulfide, urea, C₁₋₆alkylurea, phenylurea, thiourea,
 C₁₋₆alkylthiourea, phenylthiourea, substituted
 C₁₋₆alkyldisulfide, substituted phenyldisulfide,
 substituted C₁₋₆alkylurea, substituted C₁₋₆alkylthiourea,
 substituted phenylurea, and substituted phenylthiourea
 15 wherein the C₁₋₆alkyldisulfide, phenyldisulfide,
 C₁₋₆alkylurea, C₁₋₆alkylthiourea, phenylurea, and
 phenylthiourea substituents are selected from the
 group consisting of C₁₋₆alkyl, haloC₁₋₆alkyl, halogen,
 hydroxyl, carboxylic acid, sulfonic acid, phosphonic
 20 acid, amine, amidine, acetamide, and nitrile;
 a is 1-5;
 R¹¹ is hydrogen or C₁₋₆alkyl;
 R¹² is hydroxyl, sulfonic acid, phosphonic acid, carboxylic acid,
 acetamide, thioC₁₋₆alkylcarbonyl, C₁₋₆alkyldisulfide, C₁₋₆alkylsulfide,
 25 phenyl disulfide, urea, C₁₋₆alkylurea, phenylurea, thiourea,
 C₁₋₆alkylthiourea, phenylthiourea, -OR¹³, -NH-R¹³, -S-(CH₂)_d-R¹³,
 -(CH₂)_d-R¹³, -C(O)NH--(CH₂)_d-R¹³, -C(O) -(CH₂)_d-R¹³, substituted
 C₁₋₆alkyldisulfide, substituted phenyldisulfide, substituted C₁₋₆alkylurea,
 substituted phenylurea, substituted phenylthiourea or substituted
 30 C₁₋₆alkylthiourea wherein the substituents are selected from the group
 consisting of C₁₋₆alkyl, haloC₁₋₆alkyl, halogen, hydroxyl, carboxylic acid,

sulfonic acid, phosphonic acid, amine, amidine, acetamide, and nitrile;

where

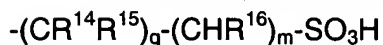
d is 0-8;

R^{13} is thio C_{1-6} alkylcarbonyl;

substituted C_{1-6} alkyl

where the alkyl substituents are selected from one or more members of the group consisting of hydroxyl, carboxylic acid, sulfonic acid, phosphonic acid, amine, amidine, acetamide, nitrile, thiol, C_{1-6} alkyldisulfide, C_{1-6} alkylsulfide, phenyldisulfide, urea, C_{1-6} alkylurea, phenylurea, thiourea, C_{1-6} alkylthiourea, phenylthiourea, substituted C_{1-6} alkyldisulfide, substituted phenyldisulfide, substituted C_{1-6} alkylurea, substituted phenylurea, substituted C_{1-6} alkylthiourea and substituted phenylthiourea

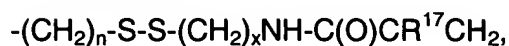
wherein the C_{1-6} alkyldisulfide, phenyldisulfide, C_{1-6} alkylurea, C_{1-6} alkylthiourea, phenylurea, and phenylthiourea substituents are selected from the group consisting of C_{1-6} alkyl, halo C_{1-6} alkyl, halogen, hydroxyl, carboxylic acid, sulfonic acid, phosphonic acid, amine, amidine, acetamide, and nitrile;



where R^{14} , R^{15} , and R^{16} are independently selected from the group consisting of hydrogen, halogen, hydroxyl, and C_{1-6} alkyl,

q is 1-6, and

m is 0-6;



where R^{17} is hydrogen or C_{1-6} alkyl,

n is 1-6, and

x is 1-6;



where R^{18} , R^{19} , and R^{20} are independently selected from the group consisting of hydrogen, halogen, hydroxyl, and C_{1-6} alkyl,

t is 1-6, and

u is 0-6;

phenyl; benzyl; pyridinyl; pyrimidinyl; pyrazinyl;

benzimidazolyl; benzothiazolyl; benzotriazolyl;

naphthaloyl; quinolinyl; indolyl; thiadiazolyl; triazolyl;

4-methylpiperidin-1-yl; 4-methylpiperazin-1-yl;

substituted phenyl; substituted benzyl; substituted

pyridinyl; substituted pyrimidinyl; substituted pyrazinyl;

substituted benzimidazolyl; substituted benzothiazolyl;

substituted benzotriazolyl; substituted naphthaloyl;

substituted quinolinyl; substituted indolyl; substituted

thiadiazolyl; substituted triazolyl; substituted 4-

methylpiperidin-1-yl; or substituted 4-methylpiperazin-1-yl

wherein the substituents are selected from one or more members of the group consisting of C_{1-6} alkyl,

halo C_{1-6} alkyl, halogen, sulfonic acid, phosphonic acid, hydroxyl, carboxylic acid, amine, amidine,

N-(2-aminopyrimidine)sulfonyl,

N-(aminopyridine)sulfonyl, N-(aminopyrazine)sulfonyl,

N-(2-aminopyrimidine)carbonyl,

N-(aminopyridine)carbonyl, N-(aminopyrazine)carbonyl,

N-(2-aminopyrimidine)phosphonyl,

N-(2-aminopyridine)phosphonyl,

N-(aminopyrazine)phosphonyl,

N-(aminobenzimidazolyl)sulfonyl,

N-(aminobenzothiazolyl)sulfonyl,

N-(aminobenzotriazolyl)sulfonyl,

N-(aminoindolyl)sulfonyl, N-(aminothiazolyl)sulfonyl,
 N-(aminotriazolyl)sulfonyl,
 N-(amino-4-methylpiperidiny)lsulfonyl,
 N-(amino-4-methylpiperazinyl)sulfonyl,
 5 N-(aminobenzimidazolyl)carbonyl,
 N-(aminobenzothiazolyl)carbonyl,
 N-(aminobenzotriazolyl)carbonyl,
 N-(aminoindolyl)carbonyl, N-(aminothiazolyl)carbonyl,
 N-(aminotriazolyl)carbonyl,
 10 N-(amino-4-methylpiperidiny)lsulfonyl,
 N-(amino-4-methylpiperazinyl)carbonyl,
 N-(2-aminobenzimidazolyl)phosphonyl,
 N-(2-aminobenzothiazolyl)phosphonyl,
 N-(2-aminobenzotriazolyl)phosphonyl,
 15 N-(2-aminoindolyl)phosphonyl,
 N-(2-aminothiazolyl)phosphonyl,
 N-(2-aminotriazolyl)phosphonyl,
 N-(amino-4-methylpiperidiny)lsulfonyl,
 N-(amino-4-methylpiperazinyl)lsulfonyl, acetamide,
 20 nitrile, thiol, C₁₋₆alkyldisulfide, C₁₋₆alkylsulfide, phenyl
 disulfide, urea, C₁₋₆alkylurea, phenylurea, thiourea,
 C₁₋₆alkylthiourea, phenylthiourea, substituted
 C₁₋₆alkyldisulfide, substituted phenyldisulfide,
 substituted C₁₋₆alkylurea, substituted C₁₋₆alkylthiourea,
 25 substituted phenylurea, and substituted phenylthiourea
 wherein the C₁₋₆alkyldisulfide, phenyldisulfide,
 C₁₋₆alkylurea, C₁₋₆alkylthiourea, phenylurea, and
 phenylthiourea substituents are selected from the
 group consisting of C₁₋₆alkyl, haloC₁₋₆alkyl, halogen,
 30 hydroxyl, carboxylic acid, sulfonic acid, phosphonic
 acid, amine, amidine, acetamide, and nitrile;

b is 1-5; p is 1-5; R²¹ is hydrogen;

R²² is hydroxyl, sulfonic acid, phosphonic acid, carboxylic acid, thioC₁₋₆alkylcarbonyl, thioC₁₋₆alkylaminocarbonyl, C₁₋₆alkyldisulfide, phenyldisulfide, -C(O)NH(CH₂)₁₋₆-SO₃H, -C(O)NH(CH₂)₁₋₆-P(O)(OH)₂,
5 -OR²³, -NH-R²³, -C(O)NH-(CH₂)_d-R²³, -S-(CH₂)_d-R²³, -(CH₂)_d-R²³, urea, C₁₋₆alkylurea, phenylurea, thiourea, C₁₋₆alkylthiourea, phenylthiourea, substituted C₁₋₆alkyldisulfide, substituted phenyldisulfide, substituted C₁₋₆alkylurea, substituted, C₁₋₆alkylthiourea substituted phenylurea or substituted phenylthiourea wherein the substituents are selected from
10 the group consisting of C₁₋₆alkyl, haloC₁₋₆alkyl, halogen, hydroxyl, carboxylic acid, sulfonic acid, phosphonic acid, amine, amidine, acetamide, and nitrile,

where

d is 0-8;

15 R²³ is thioC₁₋₆alkylcarbonyl,

C₁₋₆alkyl,

substituted C₁₋₆alkyl

where the alkyl substituents are selected from one or more members of the group consisting of C₁₋₆alkyl, halo

20 C₁₋₆alkyl, halogen, hydroxyl, carboxylic acid, sulfonic

acid, phosphonic acid, amine, amidine, acetamide,

nitrile, thiol, C₁₋₆alkyldisulfide, C₁₋₆alkylsulfide,

phenyldisulfide, urea, C₁₋₆alkylurea, phenylurea,

thiourea, C₁₋₆alkylthiourea, phenylthiourea, substituted

25 C₁₋₆alkyldisulfide, substituted phenyldisulfide,

substituted C₁₋₆alkylurea, substituted phenylurea,

substituted C₁₋₆alkylthiourea, and substituted

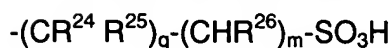
phenylthiourea

wherein the C₁₋₆alkyldisulfide, phenyldisulfide,

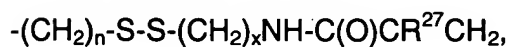
30 C₁₋₆alkylurea, C₁₋₆alkylthiourea, phenylurea, and

phenylthiourea substituents are selected from the

group consisting of C₁₋₆alkyl, haloC₁₋₆alkyl, halogen, hydroxyl, carboxylic acid, sulfonic acid, phosphonic acid, amine, amidine, acetamide, and nitrile;



where R²⁴, R²⁵, and R²⁶ are independently selected from the group consisting of hydrogen, halogen, hydroxyl, and C₁₋₆alkyl, q is 1-6, and m is 0-6



where R²⁷ is hydrogen or C₁₋₆alkyl, n is 1-6, and x is 1-6;



where R²⁸, R²⁹, and R³⁰ are independently selected from the group consisting of hydrogen, halogen, hydroxyl, and C₁₋₆alkyl, t is 1-6, and u is 0-6;

phenyl; benzyl; pyridinyl; pyrimidinyl; pyrazinyl; benzimidazolyl; benzothiazolyl; benzotriazolyl; naphthaloyl; quinolinyl; indolyl; thiadiazolyl; triazolyl; 4-methylpiperidin-1-yl; 4-methylpiperazin-1-yl; substituted phenyl; substituted benzyl; substituted pyridinyl; substituted pyrimidinyl; substituted pyrazinyl; substituted benzimidazolyl; substituted benzothiazolyl; substituted benzotriazolyl; substituted naphthaloyl; substituted quinolinyl; substituted indolyl; substituted thiadiazolyl; substituted triazolyl; substituted 4-methylpiperidin-1-yl; or substituted 4-methylpiperazin-1-yl,

wherein the substituents are selected from one or more members of the group consisting of C₁₋₆alkyl, haloC₁₋₆alkyl, halogen, sulfonic acid, phosphonic acid, hydroxyl, carboxylic acid, amine, amidine,

N-(2-aminopyrimidine)sulfonyl,
 N-(aminopyridine)sulfonyl, N-(aminopyrazine)sulfonyl,
 N-(2-aminopyrimidine)carbonyl,
 N-(aminopyridine)carbonyl, N-(aminopyrazine)carbonyl,
 5 N-(2-aminopyrimidine)phosphonyl,
 N-(2-aminopyridine)phosphonyl,
 N-(aminopyrazine)phosphonyl,
 N-(aminobenzimidazolyl)sulfonyl,
 N-(aminobenzothiazolyl)sulfonyl,
 10 N-(aminobenzotriazolyl)sulfonyl,
 N-(aminoindolyl)sulfonyl, N-(aminothiazolyl)sulfonyl,
 N-(aminotriazolyl)sulfonyl,
 N-(amino-4-methylpiperidiny)lsulfonyl,
 N-(amino-4-methylpiperazinyl)sulfonyl,
 15 N-(aminobenzimidazolyl)carbonyl,
 N-(aminobenzothiazolyl)carbonyl,
 N-(aminobenzotriazolyl)carbonyl,
 N-(aminoindolyl)carbonyl, N-(aminothiazolyl)carbonyl,
 N-(aminotriazolyl)carbonyl,
 20 N-(amino-4-methylpiperidiny)lcarbonyl,
 N-(amino-4-methylpiperazinyl)carbonyl,
 N-(2-aminobenzimidazolyl)phosphonyl,
 N-(2-aminobenzothiazolyl)phosphonyl,
 N-(2-aminobenzotriazolyl)phosphonyl,
 25 N-(2-aminoindolyl)phosphonyl,
 N-(2-aminothiazolyl)phosphonyl,
 N-(2-aminotriazolyl)phosphonyl,
 N-(amino-4-methylpiperidiny)l phosphonyl,
 N-(amino-4-methylpiperazinyl) phosphonyl, acetamide,
 30 nitrile, thiol, C₁₋₆alkyldisulfide, C₁₋₆alkylsulfide, phenyl
 disulfide, urea, C₁₋₆alkylurea, phenylurea, thiourea,

C₁₋₆alkylthiourea, phenylthiourea, substituted
C₁₋₆alkyldisulfide, substituted phenyldisulfide,
substituted C₁₋₆alkylurea, substituted C₁₋₆alkylthiourea,
substituted phenylurea, and substituted phenylthiourea
5 wherein the C₁₋₆alkyldisulfide, phenyldisulfide,
C₁₋₆alkylurea, C₁₋₆alkylthiourea, phenylurea, and
phenylthiourea substituents are selected from the
group consisting of C₁₋₆alkyl, haloC₁₋₆alkyl, halogen,
hydroxyl, carboxylic acid, sulfonic acid, phosphonic
10 acid, amine, amidine, acetamide, and nitrile;

w is 0-1;

Y is oxygen or sulfur; R³¹ is hydrogen or C₁₋₆alkyl;

R³² is hydroxyl, sulfonic acid, phosphonic acid, carboxylic acid,
thioC₁₋₆alkylcarbonyl, thioC₁₋₆alkylaminocarbonyl, -C(O)NH-(CH₂)_d-R³³,
15 -O-R³³, -NH-R³³, -S-(CH₂)_d-R³³, -(CH₂)_d-R³³, C₁₋₆alkyldisulfide,
phenyldisulfide, urea, C₁₋₆alkylurea, phenylurea, thiourea,
C₁₋₆alkylthiourea, phenylthiourea, C₁₋₆alkylamine, phenylamine,
substituted C₁₋₆alkyldisulfide, substituted phenyldisulfide, substituted
phenylurea, substituted C₁₋₆alkylamine, substituted phenylamine,
20 substituted phenylthiourea, substituted C₁₋₆alkylurea or substituted
C₁₋₆alkylthiourea wherein the substituents are selected from the group
consisting of C₁₋₆alkyl, haloC₁₋₆alkyl, halogen, hydroxyl, carboxylic acid,
sulfonic acid, phosphonic acid, amine, amidine, acetamide, and nitrile
where

25 d is 0-8;

R³³ is thioC₁₋₆alkylcarbonyl, C₁₋₆alkyl, substituted C₁₋₆alkyl
where the alkyl substituents are selected from
one or more members of the group consisting of
C₁₋₆alkyl, halo C₁₋₆alkyl, halogen, hydroxyl,
30 carboxylic acid, sulfonic acid, phosphonic acid,
amine, amidine, acetamide, nitrile, thiol,

C₁₋₆alkyldisulfide, C₁₋₆alkylsulfide, phenyldisulfide,
 urea, C₁₋₆alkylurea, phenylurea, thiourea,
 C₁₋₆alkylthiourea, phenylthiourea, substituted
 C₁₋₆alkyldisulfide, substituted phenyldisulfide,
 substituted C₁₋₆alkylurea, substituted phenylurea,
 substituted C₁₋₆alkylthiourea or substituted
 phenylthiourea
 wherein the C₁₋₆alkyldisulfide, phenyldisulfide,
 C₁₋₆alkylurea, C₁₋₆alkylthiourea, phenylurea, and
 phenylthiourea substituents are selected from the
 group consisting of C₁₋₆alkyl, haloC₁₋₆alkyl,
 halogen, hydroxyl, carboxylic acid, sulfonic acid,
 phosphonic acid, amine, amidine, acetamide, and
 nitrile;

$$-(\text{CR}^{34}\text{R}^{35})_q-(\text{CHR}^{36})_m-\text{SO}_3\text{H}$$
 where R³⁴, R³⁵, and R³⁶ are independently selected
 from the group consisting of hydrogen, halogen,
 hydroxyl, and C₁₋₆alkyl,
 q is 1-6, and m is 0-6;

$$-(\text{CH}_2)_n-\text{S}-\text{S}-(\text{CH}_2)_x-\text{NH}-\text{C}(\text{O})\text{CR}^{37}\text{CH}_2,$$
 where R³⁷ is hydrogen or C₁₋₆alkyl,
 n is 1-6, and x is 1-6;

$$-(\text{CR}^{38}\text{R}^{39})_t-(\text{CHR}^{40})_u-\text{P}(\text{O})(\text{OH})_2$$
 where R³⁸, R³⁹, and R⁴⁰ are independently selected
 from the group consisting of hydrogen, halogen,
 hydroxyl, and C₁₋₆alkyl,
 t is 1-6, and u is 0-6;
 phenyl; benzyl; pyridinyl; pyrimidinyl; pyrazinyl;
 benzimidazolyl; benzothiazolyl; benzotriazolyl;
 naphthaloyl; quinolinyl; indolyl; thiadiazolyl;
 triazolyl; 4-methylpiperidin-1-yl; 4-methylpiperazin-1-yl;

substituted phenyl; substituted benzyl; substituted
pyridinyl; substituted pyrimidinyl; substituted pyrazinyl;
substituted benzimidazolyl; substituted benzothiazolyl;
substituted benzotriazolyl; substituted naphthaloyl;
5 substituted quinolinyl; substituted indolyl;
substituted thiadiazolyl; substituted triazolyl;
substituted 4-methylpiperidin-1-yl; or
substituted 4-methylpiperazin-1-yl,
wherein the substituents are selected from one or more
10 members of the group consisting of C₁₋₆alkyl,
haloC₁₋₆alkyl, halogen, sulfonic acid, phosphonic acid,
hydroxyl, carboxylic acid, amine, amidine,
N-(2-aminopyrimidine)sulfonyl,
N-(aminopyridine)sulfonyl, N-(aminopyrazine)sulfonyl,
15 N-(2-aminopyrimidine)carbonyl,
N-(aminopyridine)carbonyl, N-(aminopyrazine)carbonyl,
N-(2-aminopyrimidine)phosphonyl,
N-(2-aminopyridine)phosphonyl,
N-(aminopyrazine)phosphonyl,
20 N-(aminobenzimidazolyl)sulfonyl,
N-(aminobenzothiazolyl)sulfonyl,
N-(aminobenzotriazolyl)sulfonyl,
N-(aminoindolyl)sulfonyl, N-(aminothiazolyl)sulfonyl,
N-(aminotriazolyl)sulfonyl,
25 N-(amino-4-methylpiperidinyl)sulfonyl,
N-(amino-4-methylpiperazinyl)sulfonyl,
N-(aminobenzimidazolyl)carbonyl,
N-(aminobenzothiazolyl)carbonyl,
N-(aminobenzotriazolyl)carbonyl,
30 N-(aminoindolyl)carbonyl, N-(aminothiazolyl)carbonyl,
N-(aminotriazolyl)carbonyl,

N-(amino-4-methylpiperidinyl)carbonyl,
 N-(amino-4-methylpiperazinyl)carbonyl,
 N-(2-aminobenzimidazolyl)phosphonyl,
 N-(2-aminobenzothiazolyl)phosphonyl,
 5 N-(2-aminobenzotriazolyl)phosphonyl,
 N-(2-aminoindolyl)phosphonyl,
 N-(2-aminothiazolyl)phosphonyl,
 N-(2-aminotriazolyl)phosphonyl,
 N-(amino-4-methylpiperidinyl) phosphonyl,
 10 N-(amino-4-methylpiperazinyl) phosphonyl, acetamide,
 nitrile, thiol, C₁₋₆alkyldisulfide, C₁₋₆alkylsulfide, phenyl
 disulfide, urea, C₁₋₆alkylurea, phenylurea, thiourea,
 C₁₋₆alkylthiourea, phenylthiourea, substituted
 C₁₋₆alkyldisulfide, substituted phenyldisulfide,
 15 substituted C₁₋₆alkylurea, substituted C₁₋₆alkylthiourea,
 substituted phenylurea, and substituted phenylthiourea
 wherein the C₁₋₆alkyldisulfide, phenyldisulfide,
 C₁₋₆alkylurea, C₁₋₆alkylthiourea, phenylurea, and
 phenylthiourea substituents are selected from the
 20 group consisting of C₁₋₆alkyl, haloC₁₋₆alkyl, halogen,
 hydroxyl, carboxylic acid, sulfonic acid, phosphonic
 acid, amine, amidine, acetamide, and nitrile;
 R⁴¹ is hydrogen, C₁₋₆alkyl, phenyl, C₁₋₆alkylcarbonyl, phenylcarbonyl,
 substituted C₁₋₆alkyl, substituted phenyl, substituted C₁₋₆alkylcarbonyl
 25 or substituted phenylcarbonyl,
 wherein
 the substituents are selected from the group consisting of
 C₁₋₆alkyl, haloC₁₋₆alkyl, halogen, hydroxyl, carboxylic acid,
 sulfonic acid, phosphonic acid, amine, amidine, acetamide,
 30 and nitrile.

2. The method of claim 1 wherein said ratio is at least about 0.5.
3. The method of claim 1 wherein the lens comprises silver in an amount which is at least about 90% of the target silver concentration.
4. The method of claim 1 wherein said at least one lens forming component comprises at least about 30 weight percent of said reactive monomer mixture.
5. The method of claim 1 wherein said at least one lens forming component comprises at least about 50 weight percent of said reactive monomer mixture.
6. The method of claim 4 wherein said at least one lens forming component comprises at least two lens forming components having similar solubilities.
7. The method of claim 1 wherein the ligand monomer is a monomer of Formula I and,

R^1 is hydrogen or C_{1-3} alkyl;

R^2 is $NH-R^3$;

d is 0;

R^3 is substituted phenyl, $-(CR^4 R^5)_q-(CHR^6)_m-SO_3H$,
 $-(CR^8 R^9)_t-(CHR^{10})_u-P(O)(OH)_2$ or
 $-(CH_2)_n-S-S-(CH_2)_xNH-C(O)CR^7CH_2$;

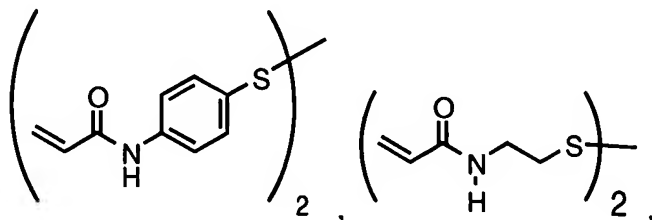
R^{4-6} are independently selected from the group consisting of hydrogen or C_{1-3} alkyl;

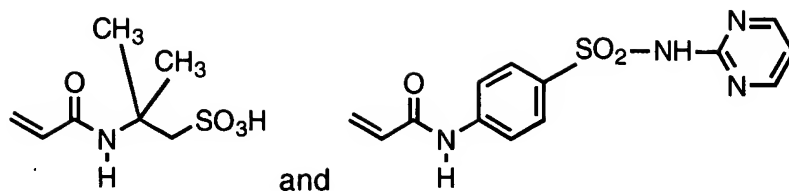
q is 1-3; m is 1-3;

R^{7-10} are independently selected from the group consisting of hydrogen or C_{1-3} alkyl;

t is 1-3; u is 1-3; n is 2-4; and x is 2-4.
8. The method of claim 1 wherein the lens is a soft contact lens.
9. The method of claim 1 wherein the lens comprises about 0.01 to about 20 weight percent ligand monomer.

10. The method of claim 1 wherein the lens comprises about 0.01 to about 3 weight percent ligand monomer.
- 5 11. The method of claim 1 wherein the lens comprises about 100 to about 2000 ppm ligand monomer.
12. The method of claim 1 wherein the lens is a silicone hydrogel.
- 10 13. The method of claim 1 wherein, the lens comprises a formulation selected from the group consisting of etafilcon A, balafilcon, A, aquafilcon A, lenefilcon A, galyfilcon A, senofilcon A and lotrafilcon A.
14. The method of claim 1 wherein,
- 15 R^1 is hydrogen or methyl;
 R^2 is $NH-R^3$;
 R^3 is $-(CR^4 R^5)_q-(CHR^6)_m-SO_3H$, $-(CR^8 R^9)_t-(CHR^{10})_u-P(O)(OH)_2$ or $-(CH_2)_n-S-S-(CH_2)_xNH-C(O)CHR^7CH_2$;
 R^{4-6} are independently hydrogen or methyl;
 q is 1-2; m is 1-2;
 R^7 is hydrogen;
 R^{8-10} are independently hydrogen or methyl;
 t is 1; u is 1-2; n is 2-3; and x is 2-3.
- 20
- 25 15. The method of claim 1 wherein the ligand monomer is selected from the group consisting of





16. The method of claim 1 wherein the antimicrobial lens comprises about 10 ppm to about 4,000 ppm silver.

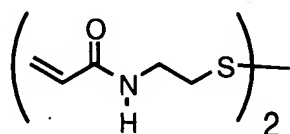
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17. The method of claim 1 wherein the antimicrobial lens comprises about 30 ppm to about 2000 ppm silver.

18. The method of claim 1 wherein the antimicrobial lens comprises about 30 ppm to about 1000 ppm silver.

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19. The method of claim 1 wherein the lens is a silicone hydrogel and the ligand monomer is

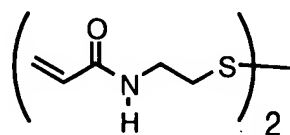


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20. The method of claim 19 wherein silver is present at about 30 ppm to about 2000 ppm and the ligand monomer is present at about 0.01 to about 3 weight percent.

21. The method of claim 13 wherein the ligand monomer is

20



22. The method of claim 21 wherein silver is present in the antimicrobial lens at about 30 ppm to about 2000 ppm and the ligand monomer is

present at about 0.01 to about 3 weight percent.

23. The method of claim 21 wherein the lens formulation is etafilcon A or aquafilcon A.
- 5
24. The method of claim 1 wherein the silver solution is aqueous silver nitrate having a concentration of about 0.1 $\mu\text{g/mL}$ to about 0.3 g/mL.
25. The method of claim 1 wherein, treating comprises soaking the lens with or in a silver solution.
- 10
26. The method of claim 25 wherein, the lens is soaked in the silver solution for about 2 minutes to about 2 hours.
27. The method of claim 1 wherein, treating comprises storing the lens in the silver solution for about 20 minutes to about 5 years.
- 15
28. The method of claim 1 wherein said monomer mix further comprises at least one initiator.
- 20
29. The method of claim 28 wherein said initiator comprises at least one photoinitiator.
30. The method of claim 29 wherein the curing step comprises an initiator concentration and light intensity sufficient to provide the reactivity ratio of at least about 0.45.
- 25
31. The method of claim 30 wherein the initiator concentration is at least about 0.4 weight % and said intensity is at least about 4 mW/cm².
- 30
32. The method of claim 30 wherein the initiator concentration is at least

about 0.9 weight % and said intensity is at least about 1 mW/cm².

33. The method of claim 30 wherein the initiator concentration is at least about 0.4 weight % and said intensity is at least about 6 mW/cm².

5

34. The method of claim 30 wherein the initiator concentration is at least about 0.9 weight % and said intensity is at least about 4 mW/cm².

35. The method of claim 30 wherein the initiator concentration about 0.4 to
10 about 2 weight % and said intensity is at least about 4 mW/cm².

36 The method of claim 1 wherein said ligand monomer is selected from the monomers of Formula II.

15 37. The method of claim 36 wherein,

a is 1-2,

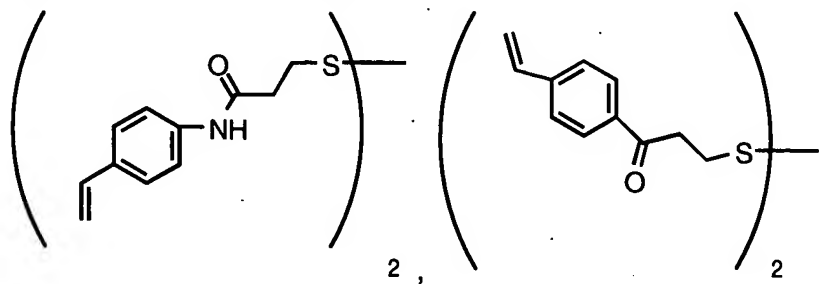
R¹¹ is hydrogen or C₁₋₃alkyl,

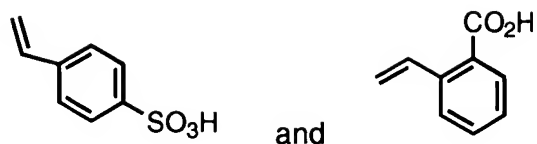
R¹² is sulfonic acid, carboxylic acid, phosphonic acid,

20 C₁₋₆alkyldisulfide, C₁₋₆alkylsulfide, phenyldisulfide, substituted phenyldisulfide or NH-R¹³,

R¹³ is thioC₁₋₆alkylcarbonyl.

38. The method of claim 36 wherein the monomer of Formula II is selected from the group consisting of





39. The method of claim 1 wherein said ligand monomer is selected from the group consisting of monomers of Formula III.

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40. The method of claim 39 wherein,

p is 1-3;

b is 1-2;

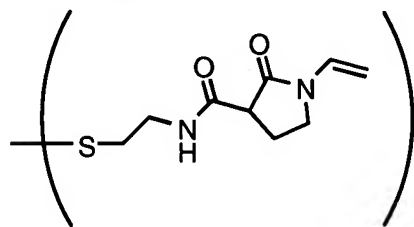
R²¹ is hydrogen;

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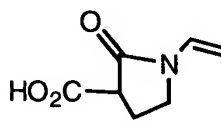
R²² is sulfonic acid, phosphonic acid, carboxylic acid, thioC₁₋₆alkylcarbonyl, thioC₁₋₆alkylaminocarbonyl, C₁₋₆alkyldisulfide, C₁₋₆alkylsulfide, phenyldisulfide, substituted phenyldisulfide, H₃OS-(CH₂)₁₋₆NHC(O) or (HO)₂(O)P-(CH₂)₁₋₆NHC(O)-.

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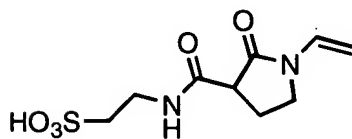
41. The method of claim 39 wherein the monomer of Formula III is selected from the group consisting of



2,



and



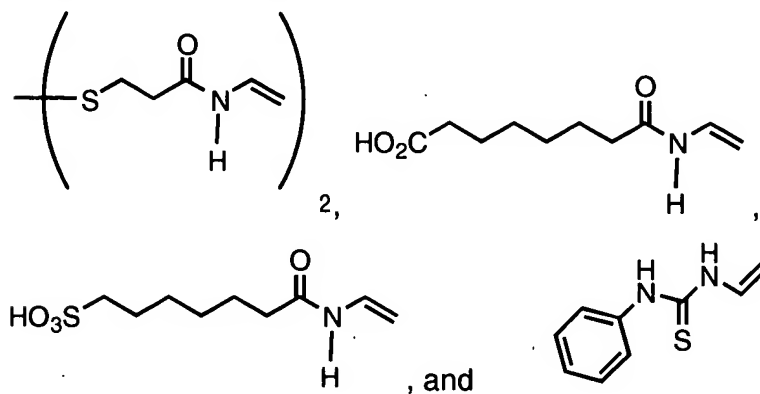
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42. The method of claim 1 wherein the ligand monomer is selected from the group consisting of monomers of Formula IV.

43. The method of claim 42 wherein,
 w is 0-1; R³¹ is hydrogen;
 R³² is amine, C₁₋₃alkylamine, phenylamine, substituted phenylamine;
 thioC₁₋₃alkylcarbonyl; and R⁴¹ is hydrogen.

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44. The method of claim 42 wherein the ligand monomer is selected from the group consisting of



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